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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/684,988	10/10/2000	Alan G. Jack	003300-688	2765

7590 07/10/2003

Benton S. Duffett, Jr.
BURNS, DOANE, SWECKER & MATHIS, L.L.P.
P. O. Box 1404
Alexandria, VA 22313-1404

EXAMINER

GONZALEZ, JULIO C

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 07/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/684,988	JACK ET AL.	
	Examiner	Art Unit	
	Julio C. Gonzalez	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation claiming that “each tooth having a single winding” as disclosed in claim 1 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 9-12, 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nickoladze (US 4,229,689) and Hendershot, Jr. (US 5,652,493) in view of Suzuki et al.

Nickoladze discloses a stator for an electrical induction machine having an even number of stator sections 11, 12 at different axial locations, each section having a plurality of extending teeth and each tooth 33 having a single winding (see figures 1, 2).

However, Nickoladze does not disclose that the stator sections may be physically shifted related to skew.

On the other hand, Hendershot discloses for the purpose of making an electrical machine that is capable of operating over a very wide rotations-per-minute range with a very high speed capability, a stator having two stator sections 2, 10 having the same amount of teeth and the teeth having windings (see figure 2A). Also, the stator sections are mutually phase shifted (see figure 1A). However, Hendershot does not disclose that the stator sections are shifted by 180 degrees.

On the other hand, Suzuki et al discloses for the purpose of restraining effectively unwanted vibration that the stator sections 5a, 5b are phase shifted by 180 degrees (see figures 2, 3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design an electrical machined as disclosed by Nickoladze and to modify the invention by shifting the stator sections related to

skew for the purpose of making an electrical machine that is capable of operating over a very wide rotations-per-minute range with a very high speed capability as disclosed by Hendershot and to modify the invention by shifting the stator sections by 180 degrees for the purpose of restraining effectively unwanted vibration as disclosed by Suzuki et al.

4. Claims 4 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nickoladze, Hendershot and Suzuki as applied to claims 1-3 and 14 above, and further in view of Taguchi.

The combined electrical machine includes all of the elements above. However, the combined electrical machine does not disclose the use of magnetic powder.

On the other hand, Taguchi discloses for the purpose to reduce the magnetic reluctance of a magnetic path between the stator and rotor that the stator 4 is made of magnetic powder (see constitution).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined electrical machine and to use magnetic powder for the purpose to reduce the magnetic reluctance of a magnetic path between the stator and rotor as disclosed by Taguchi.

5. Claims 8, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nickoladze, Hendershot and Suzuki as applied to claims 1-3 above, and further in view of Uchida et al.

The combined electrical machine includes all of the elements above. However, the combined electrical machine does not disclose that the tips of the teeth extend axially.

On the other hand, Uchida discloses for the purpose of securing effectively the insulation between the windings and the core that the tips of the teeth extend axially (see figures 2, 3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined electrical machine and to extend the teeth axially for the purpose of securing effectively the insulation between the windings and the core as disclosed by Uchida.

6. Claims 5-7 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nickoladze, Hendershot, Suzuki and Taguchi as applied to claim 4 above, and further in view of Nishiyama et al.

The combined electrical machine includes all of the elements above.

However, the combined electrical machine does not disclose that the stator sections are made of separated units.

On the other hand, Nishiyama et al discloses for the purpose of reducing cogging in a motor that the stator is made up of separated units (see figures 1, 2 and 4).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined electrical machine and to have an stator been made up of separated units for the purpose of reducing cogging in a motor as disclosed by Nishiyama et al.

Response to Arguments

7. Applicant's arguments filed 04/25/03 have been fully considered but they are not persuasive.

Hendershot, Jr. discloses that the stator sections are physically shifted relative to an angle related to skew (see figure 1A). Accordingly, claims 1 and 11 disclose an even number of stator sections, but claims 1 and 11 never specify the number of stator sections that may be used. Moreover, the skew direction is $360 \text{ degrees}/n$. Hendershot, Jr. discloses a $360/22.5$, which equals 16. The two stator sections shown in figure 1A are clearly phase shifted related to skew by 22.5 degrees and

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even if both stator sections would be shifted by 180 degrees, both stator sections would be shifted physically. For example, stator section 2 starts at 0 degrees and stator section 10 starts at 22.5 degrees. If 180 degrees were to be added to stator section 2 and 180 degrees were to be added to stator section 10, stator section 2 would be shifted 180 degrees ($180 + 0 = 180$ degrees) and stator section 10 would be shifted 202.5 degrees ($180 + 22.5 = 202.5$ degrees). Clearly, both stator sections would not be axially aligned. Also, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a different angle, since it has been held that discovering the optimum value of result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

13. In response to applicant's arguments, the recitation an induction machine has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535

F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

14. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Hendershot, Jr. and Suzuki et al disclose improvements to motor structure, in which both references are in the related field to anyone of ordinary skill in the art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722/7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to read 'Karl Tama', with a long, sweeping horizontal stroke extending to the right.

**KARL TAMA
PRIMARY EXAMINER**

Jcg

July 7, 2003